

ABSTRACT

A waveguide directional filter for combining multiple high power UHF television broadcasting transmitters on to a common antenna. The directional filter arrangement includes an input waveguide, an output waveguide and an interconnected cascade assembly of two or more cavity resonators. The input and output waveguides are each aperture-coupled to an end cavity resonator of the cascade assembly. The edges of each aperture incorporate inwardly extending curved protrusions of a characteristic shape. Alternatively or additionally, at least one pair of non-adjacent cavity resonators are coupled by at least one additional coupling element incorporating an external transmission line.